

REMARKS

Claims 2, 11, 13 and 15-18 are all the claims pending in the application.

Support for the amendment to claim 2 may be found in the specification as originally filed, for example, in original claims 5 and 8. Support for new claims 16-18 may be found in the specification as original filed, for example, at page 5, lines 13-15, and page 4, lines 4-5.

I. The Rejections Based on Fukuhara

Claims 1, 3, 10, and 12 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Fukuhara (JP2000-17115).

Claim 14 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Fukuhara.

Claims 1, 3, 10, 12 and 14 have been canceled, without prejudice or disclaimer. Therefore, the rejections based on Fukuhara are moot and it is requested that the rejections under 35 U.S.C. §§102 and 103 be reconsidered and withdrawn.

II. The Rejection based on Matsumoto

Claims 2, 5, 11, 13, and 15 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Matsumoto (US 5,226,987, newly cited).

Claims 2 has been amended to include the subject matter of claims 5 and 8. Claim 8 was not rejected based on Matsumoto. Therefore, the rejection based on

Matsumoto is moot and it is requested that the rejection under 35 U.S.C. §102 be reconsidered and withdrawn.

III. The Rejection based on Hashimoto

Claims 2, 5, 8, 9, 11, 13, and 15 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Hashimoto (US 4,714,734).

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of Hashimoto and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Claim 2 recites a tire reinforcing member comprising (a) a composite layer comprising a coating rubber composition and steel cords, and (b) a squeegee rubber composition adjoining to the composite layer and compounded with a hydrotalcite in an amount of 0.1 to 20 by weight.

An object of the present invention is to provide a tire reinforcing member and a pneumatic tire reinforced with the tire reinforcing member, which reinforcing member particularly makes it possible to enhance the adhesion properties and to enhance the resistance to loss of adhesion between steel cords and the coating rubber and to greatly improve the endurance of pneumatic tires, without effecting the initial adhesion between steel cords and a coating rubber.

Hashimoto discloses a silicone rubber composition which is alleged to be excellent in breaking strength water-resistance, heat-conductivity, and workability.

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Hashimoto discloses the silicone rubber is used as a side rubber adjoining a carcass rubber (Hashimoto, Figures 1 and 2). The thickness of the side rubber (S) (a rubber composition in Example 7) shown in Figure 1 of Example 8 of Hashimoto is 3.5mm, and 165SR13 is disclosed as a tire size (Hashimoto, at column. 20).

165 indicates that the section-width of a tire is 165mm, S indicates velocity as 175km/hr or lower, R indicates a radial tire, and 13 indicates the rim diameter is 13 inches. This tire size is a prevailing type of radial tire for use in a car. From the time when Hashimoto applied for a patent to the present time, an organic fiber (mainly a polyester fiber or a rayon fiber) has been used as the type of cords for carcass (7).

On the other hand, the cords of the composite in the present invention are steel cords. The adhesion method for steel cords and the adhesion method for organic fiber are entirely different. Therefore, it is evident that adhesion method of the present invention is entirely different from that of Hashimoto.

The Examiner indicates that Hashimoto teaches a hydrotalcite mineral as a filler. However, hydrotalcite among a large number of disclosed types of fillers, such as inorganic fillers, short fibers, and resins. Further, in the present invention the hydrotalcite is compounded into the squeegee rubber. Applicants respectfully submit that Hashimoto does not contain any disclosure that would teach or suggest the present invention.

For the above reasons, it is respectfully submitted that the subject matter of claims 2, 11, 13 and 15-18 is neither taught by nor made obvious from the disclosures of Hashimoto and it is requested that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

IV. The Rejection based on Hashimoto in view of Nguyen

Claims 4 and 6 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Hashimoto further in view of Nguyen (US 6,028,144).

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of Hashimoto and Nguyen and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Nguyen discloses a carcass coating rubber compounded with halogen-containing isomonoolefin and p-alkylstyrene copolymer. The Examiner states that the carcass coating rubber may be compounded with inorganic filler, such as calcium carbonate, silica, clay, and titanium oxide, and the Examiner states that the disclosures of Nguyen may be used for any type of rubber tires.

However, Nguyen does not teach or suggest the claimed feature (b) of claim 2, that is, a squeegee rubber composition layer which adjoins to the composite layer and contains a hydrotalcite mineral. Further, Nguyen does not describe any kind of materials to be used in a carcass, and Nguyen does not disclose what type of material is used in a carcass or whether it is an organic fiber or steel cord.

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Therefore, it is respectfully submitted that even if the disclosures of Nguyen were combined with the disclosures of Hashimoto, one of ordinary skill in the art would not arrive at Applicants' claimed invention.

Further, the claimed invention makes it possible to greatly enhance an adhesion property which is resistant to adhesion loss, and to unexpectedly improve endurance of the pneumatic tire, by the combined effect of the constituent elements (a) and (b) as defined in Claim 2. In contrast to the present invention, none of the references cited by the Examiner in any of the outstanding rejections teach or suggest the constituent elements (a) and (b) defined in claim 2, that is, a squeegee rubber composition containing a hydrotalcite mineral which adjoins to a composite. Further, none of the cited art disclose the unexpected advantage in adhesion properties achieved by the present invention. Accordingly, it is believed that the present invention is not anticipated by and not made obvious over each of references.

For the above reasons, it is respectfully submitted that the subject matter of the present claims is neither taught by nor made obvious from the disclosures of Hashimoto and Nguyen, and it is requested that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

V. Applicants' Comments as to Squeegee Rubber

The Examiner states that at least one rubber composition layer, comprising a rubber composition, which adjoins to the composite layer (comprising a coating rubber composition and steel cord), is specified, and that the tread is one rubber composition layer in the case where composite layer is a belt and the side or inner liner etc. is one rubber composition layer in the case where composite layer is a carcass layer. With that understanding, the Examiner has cited the above-mentioned references. However, Applicants wish to note the description of Applicants' specification: "[t]he combination of the coating rubber (composite layer) and the squeegee rubber (rubber composition layer) used in the carcass ply of each test tire is shown in Table 2" (Specification, page 10, lines 17 to 19). This description relates to the examples of the present invention and means that the rubber composition layer is comprised of the squeegee rubber.

Further, the Specification, page 8, lines 13 to 16, also indicates: "[t]he tire reinforcing member comprises (a) at least one composite layer of steel cords coated with a coating rubber composition and, optionally, (b) at least one rubber composition layer (for example, a so-called squeegee rubber) adjoining to the composite layer," which also means that the rubber composition layer is comprised squeegee rubber.

Furthermore, Applicants' Specification, on page 4, lines 8 to 20, explain Figures 1a to 1c, and specifically, line 12, describes the rubber composition layer (3). Namely it is understood that this layer (3) is the squeegee rubber.

As discussed above, Applicants' respectfully submit that the pending claims are clear and that claim 2 recites that the rubber composition layer is comprised of the squeegee rubber composition, the point noted by the Examiner.

In addition, the present invention provides an unexpected result, i.e., it is possible to enhance an adhesion property resistant to adhesion loss thereof without losing the initial adhesion, can be attained by compounding the hydrotalcite mineral in to the squeegee rubber composition layer.

VI. Conclusion

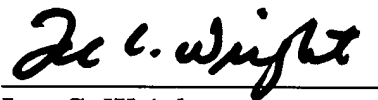
In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejections under 35 U.S.C. §102 and the rejections under 35 U.S.C. §103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

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Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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CUSTOMER NUMBER

Date: October 16, 2003